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An Overview of Importance of Breastfeeding

Foad Alimoradi [1]; Maryam Javadi [1]; Ameneh Barikani [2,*]; Naser Kalantari [3]; Mohamad Ahmadi [1]

[1]Department of Nutrition, Faculty of Health, Qazvin University of Medical Sciences, Qazvin, IR Iran
[2]Department of Social Medicine, Faculty of Medicine, Qazvin University of Medical Sciences, Qazvin, IR Iran
[3]Department of Community Nutrition, National Nutrition and Food Technology Research institute, Faculty of Nutrition and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, IR Iran

*Corresponding author: Ameneh Barikani, Department of Social Medicine, Faculty of Medicine, Qazvin University of Medical Sciences, Qazvin, IR Iran. Tel/Fax: +98-2813341934, E-mail: barikani.a@gmail.com

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Context: According to some studies, the tendency of mothers to breastfeed has declined in recent years. Due to numerous benefits of breastfeeding which had been reported, this problem may put children's health and overall health of society at risk. In this study, we reviewed previous studies, emphasizing importance and necessity and enumerating benefits of breast-feeding.
Evidence Acquisition: Websites including PubMed, Science Direct, Biomed, Medline, Cochrane Library, EMBASE, SID, and magazines related to the topic were searched using keywords. Articles that examined various aspects of breastfeeding were analyzed as well.
Results: The most perfect food for babies during the first two years of their lives is breast milk. It has so many health benefits for both mother and baby. Breastfeeding was studied from various aspects. There was significant correlation between the examined factors in vast majority of papers. However, some factors that researchers considered important did not give definitive results; therefore more extensive research is needed in this area.
Conclusions: Breast milk is the most perfect food for babies during the first two years and no replacement is recommended during this time. Breastfeeding has so many health benefits for both mother and baby during the breastfeeding period as well as in the future.

Keywords: Breastfeeding; Nutrition; Pediatrics

1. Context

Breast milk is a unique source of food for babies (1, 2) which contains all necessary nutrients that will ensures the infant's health, growth and development (2). This source of food cannot be replaced with any other diet, as breast milk contains numerous antioxidants, protecting babies against harm caused by pathogens (3, 4). Breastfeeding is also an important source of antioxidants, such as vitamin C and vitamin E, that prevent or reduce oxidative damages to various body tissues (5). Many anti-inflammatory agents were also found in breast milk which protects child from inflammatory damage (6).

The breastfeeding period is the most critical period of each individual's life in terms of his growth and development and an infant's nutrition is highly important at this stage. Secretary IgA of breast milk protects the ears, nose, throat and digestive tract, also reduces intensity of diseases such as diarrhea, respiratory tract infections (7, 8), otitis media, bacterial meningitis and urinary tract infection (9). The carnitine level in infants fed with breast milk is higher than infants fed with milk powder. Note that carnitine is required for utilization of fatty acids as an energy source (9). Exclusive breast feeding up to the first 6 months of an infant's life reduces the risk of developing gastrointestinal infections (10), asthma (10, 11) and increases prevention on development of childhood obesity (12-15) and diabetes in later years of children's lives (16, 17) and may be associated with decreased cholesterol concentrations (16). Also breast-fed children have higher scores of mental-cognitive capability than children who were not breast fed (18).

Breastfeeding significantly reduced the risk of sudden death syndrome in children under one year old (19-23) and in early birth has a tremendous positive effect on children's health (24). On the other hand mothers who had breastfed their babies are less likely to suffer from hypertension (25) and with increased breastfeeding duration decreased the risk of developing cardiovascular disease in 50 year old mothers (26). Also were less prone to develop breast cancer (27-29) and recurrence rate of postpartum migraine (30, 31).

Implication for health policy/practice/research/medical education:
Decreased tendency of mothers to breastfeed in recent years may put children's health and overall society health at risk. In this study, we reviewed previous studies to emphasize importance, necessity and enumerate benefits of breast-feeding.

2. Evidence Acquisition

In examining factors associated with breast milk, due to extensive articles and topics related to this area of interest, papers which stressed on the importance and benefits of breastfeeding were reviewed. The following keywords were mostly looked up in articles: Breast Feeding, Milk, Exclusive Breast Feeding, Women Milk, and Human Milk. Sites that were used in this paper are as followed: PubMed, ScienceDierect, Biomed, Medline, Cochrane Library, EMBASE, SID. Articles whose topics contradict this article's topic were considered as well.

Numerous studies have examined various aspects of breastfeeding and breast milk feeding. There was a significant relationship between breastfeeding and critical factors of human health in many of these studies. Given the breadth of material in this field of study, a summary of examined reviewed studies are described individually with respect to their topics in the rest of this paper.

2.1. Examining Relationship Between Breastfeeding and Prevention of Diseases

Breastfeeding protects babies from many diseases and reduces the severity of their symptoms. Among these diseases we can mention respiratory infections, gastrointestinal infections and diarrhea. Lower incidences of these diseases were reported in infants fed with breast milk (32-36). Salehi Abarghooyi et al. (37) showed that breastfeeding longer than 12 months is effective in reducing the risk of myopia in six to seven years old children. A review of several studies showed that breast milk contains bacteria that are disinfectants and strengthen the immune systems of the infants' bodies (38). Cornall (39) supported the high impact of breastfeeding on growth and health of skeletal system of children, compared to other nutritional methods of breast feeding.

2.2. Examining the Relationship Between Overweight and Obesity and Breastfeeding

Ibrahimzadekar et al. (40) showed that exclusive breast feeding up to six months and its continuation until 18 months is effective in reducing the risk of childhood obesity. Some studies have shown that breastfeeding and increased breastfeeding duration is an important factor in reducing obesity and overweight in children (14, 41-46). But, Shields et al. (47) and Nelson et al. (48) did not find an independent relationship between decreased overweight and obesity and breastfeeding. Instead, they found that other factors, including genetic and environmental factors are involved in this relationship. However, in another study, Kramer et al. (11, 49) showed that breastfeeding had no effect on reducing obesity and overweight. Ijarotimi (50) study of 200 breastfeeding mothers concluded that there was no significant relationship between breastfeeding mothers and their BMI. Burke et al. (45) suggested in a study that children that are breastfed for less than four months are more likely to develop obesity and overweight, or had increased obesity and overweight, compared to children who had been breast fed more than 4 months.

2.3. Examining the Relationship between Breastfeeding and Incidence of Diabetes and Hypertension

Several studies also supported the protective effect of breastfeeding against the development of type I diabetes (17, 51). Meyer et al. (52) showed in their study of 167 adolescents that breastfeeding is a protective factor against type II diabetes in adolescents. In some studies linking breastfeeding with reduced risk of type II diabetes has been emphasized (53, 54). According to Villegas et al. (53) and Stuebe et al. (55) studies, breastfeeding protects both mother and child from type II diabetes. Stuebe et al. (56) have also shown that breastfeeding protects mother from hypertension; however other studies did not report such an association (11, 57). Stuebe et al. (58) found that the risk of developing type II diabetes in mothers who tend to breastfeed their babies less than a month is more than mothers who do not.

2.4. Examining the Relationship Between Breastfeeding and Incidence of Asthma and Allergies

In a case-control study of 400 cases and controls conducted by Schnooyi et al. (59) it was shown that breastfeeding up to six months is associated with a reduced risk of asthma in 2-8 year-old children. Another study showed that vitamin C found in breast milk reduces allergy in children (6). Kramer et al. (60) study of 17046 children did not confirm the effects of long-term breast-feeding in reducing asthma and allergy. On the other hand, Silvers et al. (61) reported a significant relationship between breastfeeding and lower respiratory disorders, especially wheezing. Silvers et al. (62) showed that exclusive breastfeeding may reduce asthma and allergies at age six years old.

2.5. Examining the Relationship Between Breastfeeding and Development and Function of Nervous System

In a study of 69750 children conducted by Sun et al. (63), it was demonstrated that persistent and long-term breastfeeding is a protective factor against the development of epilepsy in children. Several studies showed that breastfeeding is effective in increasing children's cognitive understanding (18, 62, 64-66), in addition these studies emphasized on long-term breast milk consumption (62). Several studies also implied the positive role of breastfeeding on increased IQ and mental abilities, especially in language learning (67-69). This criterion is

probably due to the presence of unsaturated fatty acids, especially DHA, in breast milk (65, 70). Based on a case-control study conducted by Al-Farsi et al. (71), breast milk prevents the occurrence of autism in children. Another study (72) also showed that the lack of breastfeeding or early weaning of infants can make children vulnerable to ADHA (Attention-deficit/hyperactivity disorder). Nishioka et al. (73) concluded in a study of 405 mothers that mothers who breastfed their children for six months were less prone to postpartum depression.

2.6. Examining the Relationship Between Breastfeeding and Other Factors

The positive effect of breastfeeding on the decreasing risk of breast cancer was seen in mothers who had breastfed (27, 29, 58, 74). In two studies by Ram et al. (75) and Gunderson et al. (76), it was shown that an increased breastfeeding duration by mothers protects them against metabolic syndrome in the following years after weaning. Stuebe et al. (77) stated in a study of 89326 that prolonged breastfeeding protects mothers from cardiovascular diseases. Schwarz et al. (78) found that increased breastfeeding duration decreases the incidence of hypertension, diabetes, cardiovascular diseases and Hyperlipidemia in mothers.

3. Results

This paper showed that breastfeeding is the most critical solution which helps both an individual [the baby] and society because both mother and child benefits from the advantages of breastfeeding. The impact of breastfeeding on reducing obesity and overweight were greatly proven in children and adolescents. This issue can solve many problems and diseases that society faces in the future. The findings in the mentioned studies show that breastfeeding reduces the risk of developing so many diseases including diarrhea, respiratory infections, digestive disorders, asthma, allergies and some neurological disorders. Besides, breastfeeding can reduce obesity and overweight in youths and adolescents. Other benefits of breast milk are its protective effect in reduced risk of developing diabetes, hypertension, metabolic syndrome and breast cancer in mothers and children. Breastfeeding prevents the risk of developing cardiovascular diseases as well. The high concentration of anti-oxidant in breast milk, leads to the conclusion that breast milk is a protective factor against several numbers of cancers. So far, no replacement has been proposed for breast milk.

4. Conclusions

Breast milk is the perfect food source - without any other replacement - in children's diet during the first two years of their lives. Further studies are still needed to examine the relationship between breastfeeding and other health factors.

4.1. Recommendations

1) Child should be exclusively fed with breast milk in the first six months of his life.

2) Child determines breastfeeding time and any time the child demands breast milk, he should be breastfed.

3) Breastfeeding should start from early hours after birth.

4) Breastfeeding should continue after six months along with complementary food for the child.

5) Mothers who cannot be near their children at all times - for any reason - can freeze their milk, so that other family members can feed the child with this milk whenever the child needs to be fed.

6) Do not deprive your children from breast milk as long as it is possible.

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